

New The DAWN Report

Issue 23, 2006R

DRUG ABUSE WARNING NETWORK

Emergency Department Visits Involving Nonmedical Use of Selected Pharmaceuticals

In Brief

According to the Drug Abuse Warning Network (DAWN) for 2004:

- Nearly 1.3 million emergency department (ED) visits in 2004 were associated with drug misuse/abuse. Nonmedical use of pharmaceuticals was involved in nearly a half million of these ED visits.
- Opiates/opioid analgesics (pain killers), such as oxycodone, hydrocodone, and methadone, and benzodiazepines, such as alprazolam and clonazepam, were each present in more than 100,000 ED visits associated with nonmedical use of pharmaceuticals in 2004.
- Muscle relaxants, particularly carisoprodol and cyclobenzaprine, were involved in an estimated 26,000 ED visits related to nonmedical use.
- Two thirds or more of ED visits associated with opiates/opioids, benzodiazepines, and muscle relaxants involved multiple drugs, and alcohol was one of the other drugs in about a quarter of such visits.

Public concern has been increasing about the nonmedical use of pharmaceuticals.¹⁻³ The problem involves both medications available only by prescription and other pharmaceuticals, such as dietary supplements, that are commonly available over the counter. Medications with a high potential for abuse are being more widely employed in the treatment of chronic medical conditions.⁴⁻⁷ Some evidence also shows that increased long-term exposure may be associated with a higher likelihood of abuse.⁸ Recent epidemiological data have shown dramatic increases in nonmedical use of pharmaceuticals among youth (12 to 17) and older adults (i.e., 55+).⁹

The Drug Abuse Warning Network (DAWN), which collects data from a national sample of short-term, general, non-Federal hospitals,¹⁰ offers valuable information on the scope of this problem and the burden it creates on one segment of the health care system. Data on drug-related emergency department (ED) visits provide both an indication of the physical harm that may result from drug misuse and abuse as well as information about the characteristics of patients involved. An ED visit associated with drug misuse or abuse also represents a unique opportunity for health care providers to identify and refer patients for appropriate follow-up care, including substance abuse treatment. DAWN data on the disposition of these visits provide some evidence of how frequently such interventions occur as a result of care sought in EDs and the relative frequency of visits that do not receive such follow-up care.

This DAWN report examines drug-related ED visits associated with nonmedical use involving three types of pharmaceuticals that are often used nonmedically: opiates/opioid analgesics (pain relievers), benzodiazepines, and muscle relaxants. Nonmedical use includes taking a higher-than-prescribed or higher-than-recommended dose of a pharmaceutical, taking a pharmaceutical prescribed for another individual, malicious poisoning of

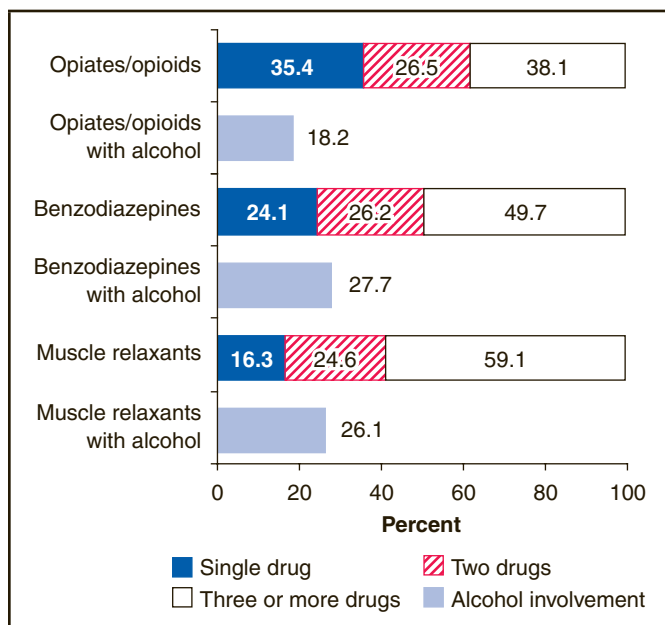
the patient by another individual, and substance abuse involving pharmaceuticals.

Overview

According to DAWN data, there were over a half million ED visits involving nonmedical use of pharmaceuticals in 2004 (Table 1). Of these visits, 32.2 percent involved opiates/opioids, 26.8 percent involved benzodiazepines, and 4.8 percent involved muscle relaxants.

An estimated 172,726 ED visits involved opiates/opioids. The most frequently listed opiates/opioids were oxycodone products (24.1% of opiates/opioids), hydrocodone products (23.1%), and methadone (21.3%). An estimated 143,546 ED visits involved benzodiazepines. Alprazolam and clonazepam, respectively, accounted for 32.4 and 19.6 percent of such visits. Carisoprodol was the most frequently named muscle relaxant (56.8% of the visits involving muscle relaxants).

Figure 1. Nonmedical use of pharmaceuticals alone and in combination



Source: a) U.S. Census Bureau; b) Office of Applied Studies, SAMHSA, Drug Abuse Warning Network, 2004 (03/2008 update).

Polydrug use

Typically, ED visits for nonmedical use of pharmaceuticals involve multiple drugs. Multiple drugs were involved in 64.6 percent of visits for opiates/opioids, 75.9 percent of visits for benzodiazepines, and 83.7 percent of ED visits for muscle relaxants (Figure 1). Often, alcohol is one of these other drugs. Alcohol was involved in 18.2 to 27.7 percent of visits involving opiates/opioids, benzodiazepines, or muscle relaxants.

Table 1. ED visits involving nonmedical use of selected pharmaceuticals

| Drug | Estimated visits | | 95% CI | |
|---|------------------|------------|-------------|-------------|
| | Number | Percentage | Lower bound | Upper bound |
| Opiates/opioids | 172,726 | 32.2 | 136,497 | 208,956 |
| Oxycodone/combinations | 41,701 | | 28,915 | 54,487 |
| Hydrocodone /combinations | 39,844 | | 30,154 | 49,535 |
| Methadone | 38,806 | | 28,151 | 45,461 |
| Benzodiazepines | 143,546 | 26.8 | 110,329 | 176,764 |
| Alprazolam | 46,526 | | 33,960 | 59,091 |
| Clonazepam | 28,178 | | 21,721 | 34,635 |
| Muscle relaxants | 25,934 | 4.8 | 19,647 | 32,221 |
| Carisoprodol | 14,736 | | 10,047 | 19,426 |
| Cyclobenzaprine | 6,183 | | 4,430 | 7,935 |
| All ED visits involving nonmedical use of pharmaceuticals | 536,247 | 100.0 | 448,688 | 623,806 |

Note: CI = confidence interval.

Source: Office of Applied Studies, SAMHSA, Drug Abuse Warning Network, 2004 (03/2008 update).

Age

Patients aged 21 to 54 had the highest rates of ED visits for nonmedical use for all three drug classes (Figure 2). Within this age group, there was no statistically significant difference in the rates for individuals aged 21 to 34 and those aged 35 to 54, with the exception of patients aged 21 to 24 and patients aged 35 to 44 for muscle relaxants.

Discharge from the ED

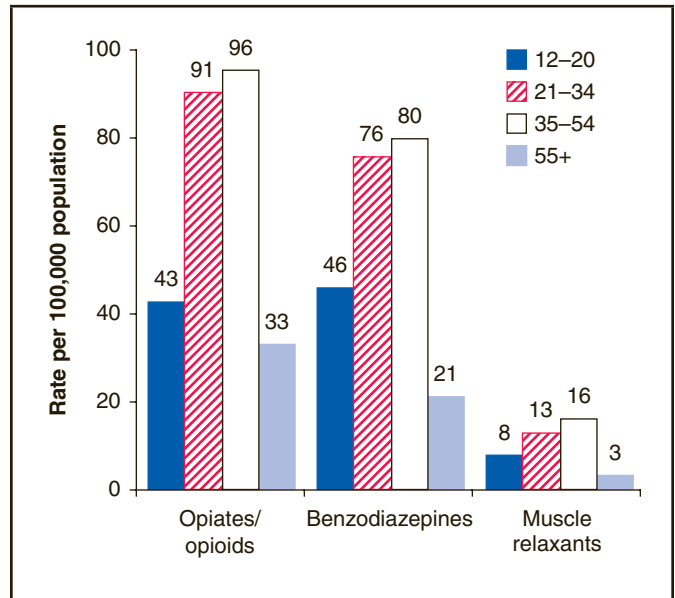
Overall, about half of ED visits involving nonmedical use of opiates/opioids, benzodiazepines, or muscle relaxants ended with no evidence of follow-up care: ranging from 59.3 percent for opiates/opioids to 48.1 percent for benzodiazepines (Figure 3). Follow-up care is defined broadly to include referrals to detoxification or substance abuse treatment services, admission to an inpatient unit in the hospital, or transfer to another health care facility.

As a disposition from the ED, deaths accounted for less than 1 percent of visits. However, these estimates do not account for patient deaths occurring before reaching the ED, after admission to an inpatient unit, or after transfer to another facility.

Notes

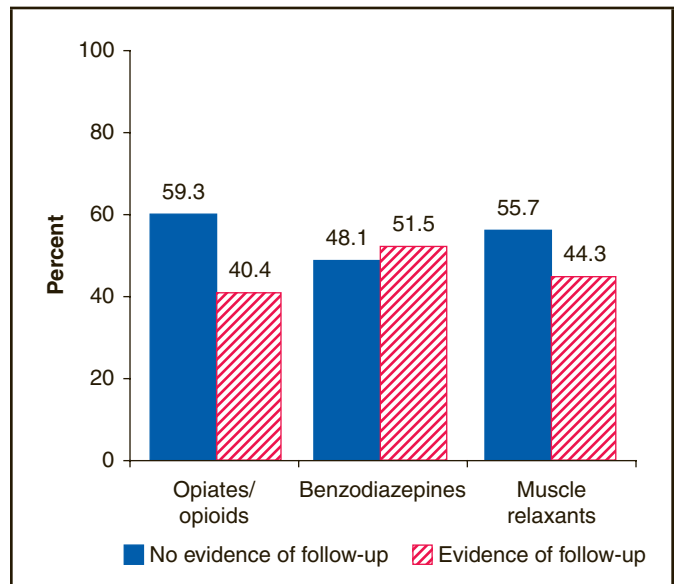
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- Janofsky, M. (2004, March 18). Drug fighters turn to rising tide of prescription abuse. *New York Times*, Section A, p. 24.
- Nonmedical use is defined as use of prescription-type drugs not prescribed for the respondent by a physician or used only for the experience or feeling they caused. Nonmedical use of any prescription-type pain reliever, sedative, stimulant, or tranquilizer does not include over-the-counter drugs.
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- Specialty hospitals, including children’s hospitals, are not included in the DAWN sample.

Figure 2. Rates of ED visits for selected pharmaceuticals, by age



Source: Office of Applied Studies, SAMHSA, Drug Abuse Warning Network, 2004 (03/2008 update).

Figure 3. Discharge status of ED visits involving nonmedical use of selected pharmaceuticals



Source: Office of Applied Studies, SAMHSA, Drug Abuse Warning Network, 2004 (03/2008 update).

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The **Drug Abuse Warning Network (DAWN)** is a public health surveillance system that monitors drug-related morbidity and mortality. DAWN uses a probability sample of hospitals to produce estimates of drug-related emergency department (ED) visits for the United States and selected metropolitan areas annually. DAWN also produces annual profiles of drug-related deaths reviewed by medical examiners or coroners in selected metropolitan areas and States.

Any ED visit or death related to recent drug use is included in DAWN. All types of drugs—licit and illicit—are covered. Alcohol is included for adults when it occurs with another drug. Alcohol is always included for minors. DAWN's method of classifying drugs was derived from the Multum *Lexicon*, Copyright © 2008, Multum Information Services, Inc. The Multum Licensing Agreement can be found in DAWN annual publications and at <http://www.multum.com/license.htm>.

DAWN is one of three major surveys conducted by the Substance Abuse and Mental Health Services Administration's Office of Applied Studies (SAMHSA/OAS). For information on other OAS surveys, go to <http://www.oas.samhsa.gov>. SAMHSA has contracts with Westat (Rockville, MD) and RTI International (Research Triangle Park, NC) to operate the DAWN system and produce publications.

For publications and additional information about DAWN, go to <http://DAWNinfo.samhsa.gov>.